Abstract of the Disclosure

A system for supporting performer interactions with a self-organizing chemical reaction based on monitoring and interpretation of a controllable self-organizing chemical reaction contained within a reaction vessel. The self-organizing chemical reaction initially includes two or more constituent chemical reactants which may be controllably replenished. Controller elements, responsive to reaction control signals, influence the reaction. Reaction control signals are generated by a processor in response to incoming performance signals. Selectable control-conversion algorithms may be used for this purpose, permitting an incoming performance signal to responsively influence the self-organizing chemical reaction. One or more electrodes or chemical sensors, a video camera, or other monitoring devices may be used to monitor the chemical reaction and produce outgoing control signals for controlling synthesizers, signal processing, lighting, or video synthesis. Outgoing control signals are created by interpreting monitoring signals according to selectable algorithms. Video camera signals may be displayed or projected in a visual performance environment